



INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

BUILDING 21ST CENTURY SKILLS: FOSTERING AND ASSESSING STUDENTS CRITICAL THINKING SKILLS

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Abstract: The NEP 2020 is a comprehensive reform that focuses on rebuilding the Indian education system with a focus on the development of 21st-century skills among learners. 21st Century Skills refer to the skills which are essential to enable one to face the challenges of the 21st century world that is globally-active and digitally transforming. 4C's refers to the learning skills i.e., creativity, critical thinking, collaboration, and communication which are highly needed to prepare students for the 21st century education. The National Education Policy 2020 lays particular emphasis on development of critical thinking skills among children. It emphasises that educational institutions must develop higher cognitive abilities, such as critical thinking, logical decision making and encourage innovation among students. The policy emphasises that the curriculum needs to be reorganised to incorporate opportunities for developing critical thinking skills among students. The policy further emphasises that the assessment must also be modified to test critical thinking skills of children. Fostering critical thinking skills takes a lot of practice and involves in various activities like analysing texts, engaging in debates, solving problems and decision making etc. The present paper is an attempt to explore fostering and assessing critical thinking skills among students. It also revealed activities and pedagogies related to fostering critical thinking skills, various ways of assessing critical thinking skills, challenges to teaching this skill and how teachers can empower students to enhance their critical thinking skills. In nutshell, this thematic paper argues that critical thinking should be mainstreamed across all levels of education and that leads to deeper understanding of content matter rather than rote learning and learning for examination.

Keywords: NEP 2020, 21st Century Skills, Critical thinking skills

I. Introduction

The National Education Policy (NEP) 2020 is a robust framework designed to bring transformation in India's educational system in comprehensive manner. The National Education Policy 2020 aims at promoting creativity and critical thinking skills among 21st-century learners in order to encourage logical decision-making and innovation. The policy promoting to recognise and foster each and every individual's unique potentiality and talent. It also brings significant changes in higher education to be more learner-centred, discovery-oriented, inquiry-driven and flexible. Assessment of learning outcomes on certain aspects that are non-measurable i.e. critical thinking skills and problem-solving skills, which are need to be developed among learners. The policy focuses on the curriculum needs to be reorganised to enhance critical thinking skills among students. The policy further aims at assessment should also be modified to test critical thinking skills of children. The following theme of the paper describe the importance of developing critical thinking skills and assessment among children as envisaged in NEP 2020. Critical thinking skills which require learners to analyse and assess their daily observations and experiences which make significant impact on their actions and decisions in life. It also enables learners to become responsible

individuals and empowered with problem solving and decision-making skills. The teacher should take vital responsibility to foster critical thinking among children and to adopt suitable teaching pedagogies that inculcate critical thinking skills among students. It enables learners to deal critically with social issues and empowers them to fight against the inequalities existing in the present society.

II. 21st Century Skills in NEP 2020

21st Century Skills refer to the skills which are required to empower an individual to face the challenges of the 21st century world that is globally-active, digitally transforming and creatively progressing. 21st century skills consist of three skills i.e. 3 Ls - Learning Skills, Life Skills and Literacy Skills. 4Cs are coming under learning skills i.e. Critical Thinking, Creativity & Innovation, Collaboration, Communication. These Skills are highly needed to empower the Children and adolescents to deal with the various social issues. The NEP 2020 highlights the significance of 21st century skills. The policy focuses on enabling learners to have mastery over the content matter with conceptual intelligibility, cooperation, teamwork, communication and resilience. The policy realises the relevance of these skills to create global and all-rounded citizens for the 21st century. The NEP 2020 connects with these skills which focusing on learning skills, encouraging learners for project-based learning and hands-on experiences, cultivating essential life skills, developing self-awareness and focusing on inquiry-based learning etc.

III. Critical Thinking Skills in NEP 2020

The National Education Policy 2020 focuses on the development of the critical thinking skills of each student. Critical thinking is a fundamental component of the NEP 2020, as it stresses on nurturing analytical skills, creativity and problem-solving abilities among students. The policy advocates that the aim of education should not only to develop cognitive skills — both “higher-order cognitive abilities,” i.e. critical thinking and problem-solving but also to develop emotional, social, and ethical capacities. The following provisions are suggested by the policy to foster creativity, innovation and critical thinking among the learners: Shift from Rote Learning to Conceptual Understanding, Assessment Reforms, Emphasis on Higher Order Thinking Skills, Reduced subject matter Load and Life Skills Education etc.

IV. Critical Thinking Skills.

Critical Thinking is the ability of objective analysis of ideas and includes the following qualities: activeness, willingness to question, fairness and open-mindedness and being independent. According to Subitha, “Critical thinking refers to carefully evaluating ideas and beliefs that we gather from others through the socialisation process as well as those we develop through our own thought processes.” It involves carefully judging and weighing one’s beliefs and assumptions, as well as of others. “Critical thinking therefore involves checking the sources of information and asking oneself whether the information is based on logical reasoning or not, if it is biased/ unbiased or it rests on sufficient evidence (Subitha,2022).” It also leads to suspended judgements that can protect one from impulsive thoughts and actions. “This process of critical thinking would ensure developing children as autonomous, independent human beings who believe in logical reasoning rather than developing individuals who passively accept information, positions and ideas (Subitha,2022).”

V. Methods of fostering Critical Thinking skills among children

Questioning

Critical thinking involves the conditions of questioning. It develops critical thinking among learners by probing deeply into what they believe in and why they believe in and enables people to develop their critical thinking skills by pursuing thoughts in many directions and to explore problems and issues.

Brainstorming

“For example, if students are reading about ‘water and its importance for life’ you may brainstorm them about the following: Which sources give us water? What would happen if a water source is depleted? Why is the situation of drought becoming increasingly dangerous in our country? (Subitha,2022).”

Classification

Classification plays significant role in critical thinking because it requires identification according to set of rules.

Compare and contrast

It also encourages learners to compare and contrast things that they observe or experience.

Work in groups

It also enables children to work in groups and encourage them to comprehend the thought process of other children and also multiple ways of approaching a problem.

Incomplete stories

Give incomplete stories to learners and ask them to complete the stories. learners could retell the stories in their own way.

Debates

Give students suitable topic for debates. Debate engages learners actively. Debate forces students to challenge received wisdom. Debate stimulates student interest, post-debate discussion and reflection.

Storytelling and analysis

“Narrate, for example, the story of Snow white and the seven dwarfs. Ask if being ‘fair skinned’ means being ‘beautiful.’ Discuss the fairness cream propagated in advertisements. Ask why there is an obsession among people to be fair-skinned. Discuss the discrimination based on colour and race at global level (Subitha,2022).”

Video viewing

Show a video to the students. Tell them to be active viewers and reactive viewers. Taking them as active viewers, ask them to write notes on the matter that they have seen in the video and develop a brief summary of the video and again taking them as reactive viewers, ask children to frame important questions. Ask them to critically analyse what they have just seen.

Argumentative essays

Essays must develop a reasoned argument and also defending it against criticisms of others.

Discussion

Discussion enables students to a wider variety of perspectives. It also gives them an opportunity to express their own thoughts and ideas.

Role-playing

When students attempt to adopt a different role, they experience a perspective shift on the issues and problems they are performing.

Concept map

Concept map enables students to see relationships between ideas more clearly when those relationships are pictured out graphically.

VI. Role of Teachers in Developing Critical Thinking Skills

The following points are for teachers to keep in mind while assisting students to foster critical thinking skills:

- Have a sufficient knowledge regarding social issues so as to support students critical thinking.
- Connect classroom experiences to social realities outside classrooms and schools.
- Listen to voices of others, especially of those who are under-represented in the classroom for initiating discussions.
- Encourage learners to raise questions and challenge the existing beliefs, norms and ideas.
- Encourage learners to listen to others view point and be respectful of others’ opinions and empathetic about issues to be discussed.
- Provide enough time period for learners to think that to be discussed in classroom. All discussions regarding topics to be followed by debriefing activities and experiences.
- Encourage learners to do lesson plan in groups with cooperatively and develop shared responsibility.
- Encourage learners to take critical judgement regarding various social issues.

VII. Challenges to Teaching Critical thinking Skills in Classrooms

There are various challenges faced by teachers while fostering critical thinking skill among children which are as follows:

- Teaching critical thinking skill in classroom requires teachers and students to do a lot of personal reflection and intellectual capability. Due to lack of sufficient time available for teaching, can enables teachers to ignore the development of critical thinking skills in classroom situations.
- Teacher’s commitment to traditional methods of instruction through rote memorisation is another challenging task. Lack of proper and enough teacher training programmes that focusses on fostering critical thinking is another drawback.
- Teaching students critical thinking skills may involve risk taking and teachers may have to face controversial and complicated situations which can create conflicts and tension in classroom settings.

VIII. Assessing Critical thinking Skills

In the case of assessing critical thinking skill, logical aspect plays great role i.e. justifying one's claims, identifying strengths and weaknesses of arguments etc. No one should ignore the critique part of critical thinking which includes the perspective-taking. For better understanding of the critical thinking skills, one should develop rubrics which also be used to assess students' activities. OECD assessment rubric on critical thinking which was developed with teachers and experts to support the formative and summative assessment of critical thinking. It includes four levels. The two lower levels were defined so that they would not correlate with the technical skills in the content of the assignment. "The primary level of progression (dormant) recommends that the learner work demonstrates the best level of mastery of the technical learning outcome in the content but not in critical thinking. The lower level describes a lack of effort to demonstrate those skills in the assignment. The second level (emergent) suggests a relatively low level in these skills, but try to demonstrate them. They are combined with a possibly lower level of mastery in the technical skills in the content. The third level (excellent) suggests a good understanding of the problem, expresses an argued position that is compared to one alternative perspective and comprehends the assumptions of the proposed position. The fourth level (outstanding) differs by comparing to more than one alternative perspective, provides sound evidence, and is self-reflective (Vincent -Lancrin,2023)."

"There is a similar logic and ideas between the product and process dimensions of the scoring rubric. Level 1 (dormant) corresponds to a production process during which students did not explore alternatives, challenge assumptions, and quickly jumped to conclusions and a position. Level 2 (emergent) suggests to more attempts to explore alternatives, ignore judgement and careful in one's thinking but a partially inappropriate understanding of the problem framing. At Level 3 (flourishing), learners manage to consider and comprehend another way of looking at the problem and are able to challenge some aspect of it and are self-aware of the strengths but possibly limitations of their position. Finally, at Level 4 (outstanding), learners went further and explored several alternative theory or formulation of the problem, challenged several positions and showed an openness to feedback and critiques in addition to their own understanding of the pros and cons of their position (Vincent -Lancrin,2023)."

"When provided with an appropriate task and activity which requires them to demonstrate critical thinking, the rubric can be used to clarify expectations about critical thinking and to give feedback on students work process and output and also to grade student work on this dimension by attaching points to the different levels of the rubric. But other learning outcomes i.e. specific content knowledge, communication and creativity are to be graded and specific descriptors of proficiency level for those other learning goals should also be provided separately (Vincent -Lancrin,2023)."

IX. Exams and Standardized assessments of Critical thinking Skill in Higher Education

Critical thinking should also be one of the dimensions assessed in exams particularly in exams at the transition of different levels of education i.e. college and university entrance exams. It can also be part of national evaluations and to inform the system. "At the international level, the OECD PISA program measures some aspects of critical thinking as part of its assessment of science — notably the logical part of critical thinking when asking students to demonstrate or to identify scientific reasoning (Vincent -Lancrin,2023)." Many standardized tests also exist in higher education i.e. California Critical Thinking Skills Test, Critical-thinking Assessment Test (CAT), the Collegiate Learning Assessment, the International Critical Thinking Essay Test, the Heighten critical thinking assessment and the Macat Critical Thinking Assessments etc. "Ennis and Chatin (2020) listed and annotated over 40 critical thinking assessments in English. Advantages of these standardized assessments are that they provide systems or institutions with quick benchmarks and some standards. However, as with any test, it is crucial to be sure that the measured construct of critical thinking matches the definition of critical thinking adopted by the education system. They are also not a substitute for developing formative and summative tests to be used by teachers in schools and universities (Vincent -Lancrin,2023)."

X. Conclusion

The NEP 2020 has included 21st century skills at three different places to equip students to adapt to situations of the 21st century. The purpose of the policy is to enable the students to apply the knowledge in day-to-day life to live with confidently. They can face each and every challenge and contribute to development of their family and society. 21st century skills are essential for learners to improve communication, leadership, collaboration, teamwork and decision-making. Therefore, 21st century skills should be included into the education system to prepare future generations for the development of a nation. After an extensive study of the above topic, it can be concluded that NEP 2020 seeks to integrate critical thinking into every sphere of the educational system in order to promote logical analysis, creativity and innovation. The NEP 2020 emphasizes the significance of critical thinking as a higher order thinking skill

and the necessity of assisting students to acquire it. Critical thinking skills is very urgent needed to be instilled among students which provides them with the skills to evaluate, generalise and reason out. It is intended that teachers and stakeholders would become concern about critical thinking is an essential component of education as a result to establish classroom setting and opportunities that foster the development of this important skill.

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